

AMENDMENTS TO THE CLAIMS

Please amend the claims of this application as set out below:

1. (Original) An electrophoretic medium comprising an electrically charged particle suspended in a suspending fluid, the particle having a polymeric shell having repeating units derived from at least one monomer the homopolymer of which is incompatible with the suspending fluid.

2. (Original) An electrophoretic medium according to claim 1 wherein the polymeric shell further comprises repeating units derived from at least one monomer the homopolymer of which is compatible with the suspending fluid.

3. (Original) An electrophoretic medium according to claim 2 wherein the at least one monomer forming the compatible homopolymer comprises from about 15 to about 99 per cent by weight of the polymer shell.

4. (Original) An electrophoretic medium according to claim 3 wherein the at least one monomer forming the compatible homopolymer comprises from about 50 to about 99 per cent by weight of the polymer shell.

5. (Original) An electrophoretic medium according to claim 1 wherein the suspending fluid comprises a hydrocarbon.

6. (Original) An electrophoretic medium according to claim 1 wherein the monomer forming the incompatible homopolymer comprises any one of more of acrylates and methacrylates formed from alcohols containing not more than about eight carbon atoms, said alcohols optionally containing hydroxyl or fluoro substituents; acrylamides and methacrylamides; N,N-dialkylacrylamides; N-vinylpyrrolidone; styrene and derivatives thereof; vinyl esters; vinyl halides; polyfluoroaromatic molecules containing a polymerizable functional group; and silicone-containing molecules containing a polymerizable functional group.

7. (Original) An electrophoretic medium according to claim 6 wherein the monomer forming the incompatible homopolymer comprises any one of more of methyl methacrylate, ethyl methacrylate, butyl methacrylate, isobutyl methacrylate, t-

butyl methacrylate, octyl methacrylate, 2-ethylhexyl methacrylate, 2-hydroxyethyl methacrylate, trifluoroethyl methacrylate, 2,2,3,4,4,4-hexafluorobutyl acrylate, 2,2,3,4,4,4-hexafluorobutyl methacrylate, acrylamide, acrylic acid, acrylonitrile, methyl vinyl ketone, methacrylamide, N-vinylpyrrolidone, styrene, vinyl acetate, vinyl chloride, vinylidene chloride, and pentafluorostyrene.

8. (Original) An electrophoretic medium according to claim 2 wherein the monomer forming the compatible homopolymer comprises lauryl methacrylate and the monomer forming the incompatible homopolymer comprises any one or more of styrene, t-butyl methacrylate and N-vinylpyrrolidone.

9. (Original) An electrophoretic medium according to claim 1 further comprising a second type of electrically charged particle having at least one optical characteristic differing from that of the other electrically charged particle, the second type of electrically charged particle having a polymeric shell.

10. (Original) An electrophoretic medium according to claim 9 wherein the electrically charged particle comprises titania and the second type of electrically charged particle comprises carbon black or copper chromite.

11. (Original) An electrophoretic medium comprising:

a suspending fluid;

a first type of electrically charged particle suspended in the suspending fluid, the first type of particle having a first optical characteristic and a polymeric shell; and

a second type of electrically charged particle suspended in the suspending fluid, the second type of particle having a second optical characteristic differing from the first optical characteristic, and a polymeric shell;

wherein the polymeric shells are arranged such that homoaggregation of the first and second types of particles is thermodynamically favored over heteroaggregation.

12. (Original) An electrophoretic medium according to claim 11 wherein the polymeric shells of the first and second types of particles each comprise repeating units derived from at least one monomer the homopolymer of which is incompatible with the suspending fluid.

13. (Original) An electrophoretic medium according to claim 12 wherein each polymeric shell further comprises repeating units derived from at least one monomer the homopolymer of which is compatible with the suspending fluid.

14. (Original) An electrophoretic medium according to claim 13 wherein the at least one monomer forming the compatible homopolymer comprises from about 15 to about 99 per cent by weight of the polymer shell.

15. (Original) An electrophoretic medium according to claim 14 wherein the at least one monomer forming the compatible homopolymer comprises from about 50 to about 99 per cent by weight of the polymer shell.

16. (Original) An electrophoretic medium according to claim 11 wherein the suspending fluid has a dielectric constant less than about 5.

17. (Original) An electrophoretic medium according to claim 11 wherein the suspending fluid comprises a hydrocarbon.

18. (Original) An electrophoretic medium according to claim 17 wherein the suspending fluid comprises an aliphatic hydrocarbon.

19. (Original) An electrophoretic medium according to claim 17 wherein the suspending fluid comprises an aryl-alkane or dodecylbenzene.

20. (Original) An electrophoretic medium according to claim 12 wherein the monomer forming the incompatible homopolymer comprises any one of more of acrylates and methacrylates formed from alcohols containing not more than about eight carbon atoms, said alcohols optionally containing hydroxyl or fluoro substituents; acrylamides and methacrylamides; N,N-dialkylacrylamides; N-vinylpyrrolidone; styrene and derivatives thereof; vinyl esters; vinyl halides; polyfluoroaromatic molecules

containing a polymerizable functional group; and silicone-containing molecules containing a polymerizable functional group.

21. (Original) An electrophoretic medium according to claim 20 wherein the monomer forming the incompatible homopolymer comprises any one of more of methyl methacrylate, ethyl methacrylate, butyl methacrylate, isobutyl methacrylate, t-butyl methacrylate, octyl methacrylate, 2-ethylhexyl methacrylate, 2-hydroxyethyl methacrylate, trifluoroethyl methacrylate, 2,2,3,4,4,4-hexafluorobutyl acrylate, 2,2,3,4,4,4-hexafluorobutyl methacrylate, acrylamide, acrylic acid, acrylonitrile, methyl vinyl ketone, methacrylamide, N-vinylpyrrolidone, styrene, vinyl acetate, vinyl chloride, vinylidene chloride, and pentafluorostyrene.

22. (Original) An electrophoretic medium according to claim 13 wherein the monomer forming the compatible homopolymer comprises lauryl methacrylate and the monomer forming the incompatible homopolymer comprises any one or more of styrene, t-butyl methacrylate and N-vinylpyrrolidone.

23. (Original) An electrophoretic medium according to claim 11 having an operating voltage threshold.

24. (Original) An electrophoretic medium according to claim 11 wherein the suspending fluid and the particles are retained within a plurality of capsules or cells.

25. (Original) An electrophoretic display comprising an electrophoretic medium according to claim 11 and at least one electrode disposed adjacent the electrophoretic medium and arranged to apply an electric field thereto.

26. (Original) An electrophoretic particle comprising a pigment particle having a polymeric shell having repeating units derived from at least one monomer the homopolymer of which is incompatible with n-hexane.

27. (Original) An electrophoretic particle according to claim 26 wherein the polymeric shell further comprises repeating units derived from at least one monomer the homopolymer of which is compatible with n-hexane.

28. (Original) An electrophoretic particle according to claim 27 wherein the at least one monomer forming the compatible homopolymer comprises from about 15 to about 99 per cent by weight of the polymer shell.

29. (Original) An electrophoretic particle according to claim 28 wherein the at least one monomer forming the compatible homopolymer comprises from about 50 to about 99 per cent by weight of the polymer shell.

30. (Original) An electrophoretic particle according to claim 26 wherein the monomer forming the incompatible homopolymer comprises any one of more of acrylates and methacrylates formed from alcohols containing not more than about eight carbon atoms, said alcohols optionally containing hydroxyl or fluoro substituents; acrylamides and methacrylamides; N,N-dialkylacrylamides; N-vinylpyrrolidone; styrene and derivatives thereof; vinyl esters; vinyl halides; polyfluoroaromatic molecules containing a polymerizable functional group; and silicone-containing molecules containing a polymerizable functional group.

31. (Original) An electrophoretic particle according to claim 26 wherein the monomer forming the incompatible homopolymer comprises any one of more of methyl methacrylate, ethyl methacrylate, butyl methacrylate, isobutyl methacrylate, t-butyl methacrylate, octyl methacrylate, 2-ethylhexyl methacrylate, 2-hydroxyethyl methacrylate, trifluoroethyl methacrylate, 2,2,3,4,4,4-hexafluorobutyl acrylate, 2,2,3,4,4,4-hexafluorobutyl methacrylate, acrylamide, acrylic acid, acrylonitrile, methyl vinyl ketone, methacrylamide, N-vinylpyrrolidone, styrene, vinyl acetate, vinyl chloride, vinylidene chloride, and pentafluorostyrene.

32. (Original) An electrophoretic particle according to claim 27 wherein the monomer forming the compatible homopolymer comprises lauryl methacrylate and the monomer forming the incompatible homopolymer comprises any one or more of styrene, t-butyl methacrylate and N-vinylpyrrolidone.

33. (Original) An electrophoretic particle according to claim 26 wherein the pigment particle comprises any one or more of titania, carbon black and copper chromite.

34. (Original) An electrophoretic particle comprising a pigment particle having a polymeric shell having repeating units derived from at least one monomer the homopolymer of which is incompatible with perfluorodecalin.

35. (Original) An electrophoretic particle comprising a pigment particle having a polymeric shell having repeating units derived from at least one monomer the homopolymer of which is incompatible with polydimethylsiloxane 200, viscosity 0.65 centistokes.

Claims 36-41. (Cancelled).